

REQUEST FOR QUALIFICATIONS
GENERAL CONTRACTOR /
CONSTRUCTION MANAGER SERVICES

**A DEMONSTRATION SYSTEM FOR CAPTURING GEOTHERMAL
ENERGY**

NATURAL RESOURCES BUILDING

MONTANA TECH OF THE UNIVERSITY OF MONTANA
Butte, MT

A/E #25-06-01-01



Architecture & Engineering Division
Department of Administration
PO Box 200103
Helena, MT 59620-0103

August 2012

I. INTRODUCTION

The State of Montana (Owner), is seeking qualified General Contractor /Construction Manager (GC/CM) firms to undertake preconstruction and construction services to install a large centralized hybrid geothermal system using off-the-shelf technology to reduce operating cost of the Natural Resources Building on the Montana Tech campus. The heat pump system will heat/cool the building using a flooded underground mine as the heat source or sink. This is an ARRA project funded by a grant from DOE; therefore, all applicable federal requirements apply along with Davis Bacon wage rates.

Owner intends to enter into a GC/CM Contract with the selected GC/CM firm that will include Preconstruction Services and identification of a GC/CM Fee and Fixed Costs for General Conditions Work, with provisions for adding Construction Services through acceptance of a Guaranteed Maximum Price (GMP). The GMP would include construction services through completion of the Project. Alternatively, Owner may, at its sole discretion, choose not to continue the GC/CM Contract beyond the completion of preconstruction activities and solicit bids from qualified contractors for the construction of the Project.

Owner will use the RFQ process to evaluate each of the Proposers' qualifications. A subsequent Request for Proposals (RFP) will be issued to a maximum of five (5) qualified Contractors who will then be required to submit details of their capabilities and experience. GC/CM selection information will be obtained from the Proposals submitted in response to the RFP document, potential interviews, and discussions with former and present clients of Proposers.

When selected, the GC/CM will function as part of a team composed of the Owner, Architect, and others as determined by the Owner.

This Request for Qualifications shall not commit the Owner to enter into any agreement, to pay any expenses incurred in preparation of any response to this request, or to procure or contract for any supplies, goods or services. The Owner reserves the right to accept or reject any and all responses received as a result of this RFQ if it is in the Owner's best interest to do so.

This Procurement is governed by the laws of the State of Montana and venue for all legal proceedings shall be the First Judicial District, City of Helena, Lewis & Clark County.

By offering to perform services under this Procurement, all Proposers agree to be bound by the laws of the State of Montana, and including, but not limited to, applicable wage rates, payments, gross receipts taxes, building codes, equal opportunity employment practices, safety, etc.

The State of Montana makes reasonable accommodations for any known disability that may interfere with an applicant's ability to compete in the bidding and/or selection process. In order for the state to make such accommodations, applicants must make known any needed accommodation to the individual project managers or agency contacts listed in the contract documents. Persons using TDD may call the Montana Relay Service at 1-800-253-4091.

II. PROJECT BACKGROUND AND DESCRIPTION

Introduction

Montana Tech is on the outer, cooler edge of the Butte mining district. Tech's new Natural Resources Building, completed in late 2009, is within 1200 feet of the Orphan Boy Mine shaft and provides an excellent opportunity to demonstrate low-cost heating in a modern building. Water level in the 1500-foot-deep Orphan Boy Mine is stable at about 120 feet below surface and water temperature is a consistent 78F (25C). Interestingly, mine waters have been joined with heat pump systems at other sites, but they are all relatively cool [Park Hills, MO—abandoned coal mine 57F (14C); Springhill, Nova Scotia—abandoned coal mine 64F (18C); Glasgow, Scotland—abandoned coal mine 54F (12C)]. Efforts to take advantage of warm mine waters seem to be notably absent. If successful, the techniques and equipment developed in this project could be directly applied to buildings throughout the campus and City of Butte including the county court house, the Federal court building, World Museum of Mining, and numerous privately owned historic buildings.

The project is intended to produce the addition of a complete and working heat pump system to the existing Natural Resources Building. The heat pump system will provide both heating and cooling, but will not simultaneously heat and cool. The heat sink for the new heat pump is to be the Orphan Boy Mine. The mine is flooded with water at a constant 78⁰F. Several HPDE coils will be placed in the water. The equipment will be located underground adjacent to the mine shaft. A feasibility study has been performed on the project and equipment sizes have been determined.

Phase 1 of this project evaluated the feasibility of designing and installing a heat pump system to heat/cool an existing building using a flooded underground mine as the heat source or sink. The project was determined to be economically feasible; therefore, the system will be installed in Phase 2, and Phase 3 will follow with data collection, analysis, publication of results, and education courses and outreach by MT Tech.

Project Location and Site

Natural Resources Building and adjacent area south west to the Orphan Boy Mine Shaft on the west side of the Montana Tech Campus located in Butte, MT

Design Considerations

Phase 2 – Install and commission the heat pump system which includes but is not limited to the following:

Underground Mechanical Room: The heat pump and associated equipment will be installed underground at a location 100ft below ground immediately adjacent to the mine shaft. All lighting and required ventilation will be installed. A hoist system to raise and lower the coils into the mine shaft will be installed in this space. All equipment is to be suitable for the underground environment.

The decline route to the 100ft level is being made via a separate contract by MT Tech to provide access and a space for new underground mechanical room.

Heat Sink Piping: The feasibility study has determined a requirement for 15 parallel 1" HDPE coils of 700 ft each to transfer the required amount of heat in the shaft. An extra 2 coils are desired to allow for safety factor and pipe blockage, 17 total loops. The coils and pipe header system will be fitted into a cage to prevent damage when lowered into the mine shaft. This will be a closed loop system; therefore, no water-use permits will be required.

Heat Pump: The heat pump will be a water-to-water type at a nominal 60 tons. It will operate with the heat sink loop as described above. The shaft water is a constant 78°F. The heat pump will provide a minimum 52 tons of cooling with a leaving temperature of 45°F and a 10°F delta-T. The heat pump will provide a minimum of 800,000BTU/h heating with a leaving temperature of 140°F and a 20°F delta-T. The heat pump will be capable of operating at a leaving temperature of 60°F cooling.

Connection to Existing System: The existing building heat is supplied by a steam converter on the first floor. The steam converter is designed to raise 310 GPM from 140°F to 180°F. It is being operated at a leaving temperature of 140°F. The heating water pump has a VSD that varies the flow of the system. The return piping to the steam converter will be intercepted and divert a portion of the heating water to the heat pump. The heat pump will add as much heat as possible and return the water to the same line before the steam converter. The heat pump is in series with the converter. The steam converter will then add the heat required to raise the mixed return and preheated water temperature to the current supply temperature setting.

The existing building cooling is supplied by an air-cooled chiller just outside the building. The existing chiller is 169 tons, designed to cool 385 GPM from 53°F to 41°F. It is being operated at leaving temperatures between 45 to 65°F. The chilled water pump has a VSD that varies the chiller flow. The chilled water return piping to the chiller will be intercepted and divert a portion of the chilled water to the heat pump. The heat pump will chill the water and return it to the same line before the chilled water pump. The heat pump and chiller are in series. The existing chiller will then chill the mixed return and pre-chilled water to the required supply water set point.

Connection to the chilled and heating piping will be made in the first floor mechanical room.

The existing water treatment equipment will have to be supplemented to cover the new pipe and equipment. A new system will be needed for the heat sink system.

A set of 6" supply and return pipes will be installed under a separate contract by MT Tech from the NRB to the Orphan Boy mine.

Freeze Protection

All of the calculations made during the design phase were made with pure water and no freeze protection. Where freeze protection is required, the capacity and pumping calculations will be adjusted.

Control System: All components of the project will work together and communicate via a controls system. Data recording and trending is a requirement of the DOE grant; consequently, the system will be capable of such.

Electrical System: Under this contract, a complete operating electrical system will be installed. This includes power to the heat pump, pumps, and miscellaneous mechanical equipment. Lighting and miscellaneous power will also be provided along the decline pathway and in the underground mechanical room.

Power service will be brought to the Orphan boy mine under a separate contract by MT Tech.

For the design, the Owner has selected:

Kirk Engineering & Natural Resources, Inc.
P.O. Box 636
Sheridan, MT 59749
(406) 842-7224
Scott Payne [scott_payne@kirkenr.com]

The Owner is ready to hire General Contractor / Construction Manager as the next step to informing and collaborating in the design process. The project is presently in the Preliminary Design process.

The following is the intended timeline for the project:

GC/CM Selection:

RFQ Advertising dates:	Butte & Helena – August 26 & September 2, 9.
Receipt of Qualifications:	No later than 5:00 p.m. MST on September 11, 2012
Review & Short-List by Committee:	September 14, 2012
	<i>Short-listed firms will be notified the afternoon of September 18th.</i>
Issue RFP @ Walk-Through:	September 25, 2012
	<i>All short-listed firms shall be prepared to attend a pre-RFP meeting and walk-through at MT Tech the morning of September 25, 2012. The RFP document will be issued at the meeting along with schematic design elements of the proposed construction.</i>
Receive Proposals:	October 02, 2012
Selection:	On or before October 5, 2012
	<i>Due to the shortened timeline for this project, the Owner may make the GC/CM selection based upon the responses to the RFP w/o conducting interviews.</i>

Design/Construction:

Phase 2

- Design & installation of components in NRB
- Design & installation of heat pump system components in mine
- Design & installation of hoist system & containment cage for the coils
- Design & installation of startup & commissioning activities
- Entire Project Completed & Operational Not Later Than September 30, 2013

III. SCOPE OF PRECONSTRUCTION SERVICES

Preconstruction services will be provided on a cost reimbursement basis up to a stated maximum. The specific scope of preconstruction services will be negotiated prior to signing the GC/CM Contract. In general, services are anticipated to include the following:

1. Participation in all design and coordination meetings and conference calls;
2. Review of all designs for constructability;
3. Work with the Owner and design team on phasing, scheduling, and other strategies to complete construction of this scale of project on or before the stated date;
4. Coordination and gathering of input from subcontractors regarding constructability;
5. Review and cost evaluation at each phase of design taking into consideration schedule, phasing and market conditions;
6. Consult with, advise, assist, and provide recommendations to the Owner and design team on all aspects of the work;
7. Provide information, estimates, schemes, and participate in decisions regarding construction materials, methods, systems, phasing, sustainability and costs to assist in determinations which are aimed at providing the highest quality building, constructed using the most sustainable construction materials and practices, within the budget and schedule;
8. in-progress design and construction documents and provide input and advice on construction feasibility, alternative materials, costs and availability;
9. Review completed design and construction documents prior to subcontractor/supplier bidding/selection and suggest modifications to improve completeness and clarity and to eliminate construction change requests due to inconsistencies or omissions in the construction documents;
10. Provide input to the Owner and the design team regarding construction market bidding climate, status of key subcontract markets, and other relevant economic conditions;
11. Recommend and actively source labor and material resources necessary to complete the project construction;
12. Provide input to the Owner and the design team regarding long lead time materials and equipment, impact on the construction schedule and strategies for mitigating the impact;
13. Prepare construction cost estimates for the Project at the preliminary design and construction document design phases and, if appropriate, at other times throughout of the work;
14. Notify the Owner and design team immediately if construction cost estimates appear to be exceeding the construction budget, and reconcile each cost estimate with the Architect's cost estimate, if required;
15. Furnish a final construction cost estimate for the Owner's review and approval;
16. Develop a preliminary construction schedule;
17. Develop all subcontractor/supplier bid packages and perform all advertising and receipt of subcontractor/supplier bids;
18. Obtain bids per trade for the Owner's review, unless otherwise approved by Owner in order to meet resourcing requirements, per GC/CM Contract. Self-performed work must be bid against at least two subcontractors, if readily available;

19. Upon execution of any Early Work Amendment prior to a GMP agreement, undertake early material procurement, site preparation, and advance construction work.

IV. SCOPE OF CONSTRUCTION SERVICES

It is anticipated that the GMP will be requested during the Construction Documents phases. The established GMP will be the maximum amount paid for the construction, unless scope changes are requested and approved by the Owner. At the time of execution of the GMP, the GC/CM will be required to submit a 100% performance and 100% payment bond for the amount of the GMP. Bonding will also be required for any and all Early Work Amendments issued. The Owner retains the option to cancel the construction phase services, or to start a new process for the construction of the Project, or terminate the contract and negotiate a replacement contract with the next highest rated Proposer from this solicitation, or to conclude the GC/CM's services at pre-construction and issue the Project on a lowest, responsible bidder method.

The Federal Davis Bacon Wage Rates incorporated in this RFQ are provided for informational purposes only. The selected GC/CM will be required to comply (as a minimum allowable rate schedule) with those Rates adopted and effective at the time of signing the GMP Agreement/Amendment. All reporting, documentation, etc. shall be per the Federal ARRA requirements.

The project is funded via an ARRA grant from DOE. The Federal ARRA requirements along with special terms and conditions of the DOE grant must be adhered to.

The minimum wages to be paid laborers and mechanics under this award involved in performance of work at the project site, as determined by the Secretary of Labor to be prevailing for the corresponding classes of laborers and mechanics employed on projects of a character similar to the contract work in the pertinent locality, are found at <http://www.wdol.gov/>, by clicking on "Selecting DBA WDs". The Wage Determination Number(s) and General Decision Number(s) specific to this award are found below. These wage rates are minimum rates and are not intended to represent the actual wage rates that the Contractor may have to pay.

CONSTRUCTION TYPE	WAGE DETERMINATION NUMBER	GENERAL DECISION NUMBER
Building	MT7	MT100007 03/12/2010 MT7
Highway	MT2	MT100002 03/12/2010 MT2
Residential	MT17	MT100017 03/12/2010 MT17

V. SELECTION PROCEDURE

This RFQ is the first of a multi-part selection process. In order to qualify for further consideration, Proposers must comply with the mandatory requirements provided below. Statements of Qualifications that do not contain the required documentation will be deemed nonresponsive to this RFQ requirement and will be rejected on that basis. A maximum of five (5) firms that satisfy the required qualifications detailed below will be provided a Request for Proposal by the Owner.

STATEMENT OF QUALIFICATIONS

Proposers must meet certain minimum Qualification Conditions in order to be eligible to submit a proposal. The Owner has identified the following pass/fail Qualification Conditions in order to establish eligibility to propose further on this procurement:

1. General Contractor / Construction Manager Firm Information:

- a. Proposer must demonstrate successful experience and capacity to act as a general contractor on projects of similar site, size, type and complexity. Specifically, the Owner will be looking for successful experience of working on a heat pump project, and ability to manage equally complex work in a compressed timeframe. Proposer must include evidence of valid current construction contractor registration in the RFQ response.
- b. Firm Background: Describe your firm's history. Include information identifying the firm's annual volume of business, financial/bonding capacities, and speak to the firm's stability in the marketplace. Information identifying the firm's strengths and weaknesses along with special capabilities that may be appropriate to this Project will assist in the evaluation.
- c. Identify the project manager and superintendent your firm proposes for this project and their relevant experience.
- d. Who are your bonding company and agent?
 - i. Provide their name, phone and email contact information
 - ii. Are they your exclusive source for bonds?
 - iii. How long have you used them?
 - iv. If less than 5 years, or not your exclusive source, name all others used in the last 5 years
 - v. Provide name, phone and email contact information for each
 - vi. Will you use them for this project?
- e. In the last ten years, have you (if you answer "yes", provide full explanation):
 - i. had a settled or pending claim against your payment or performance bond that was due to your firm's default or failure?
 - ii. had your contract terminated on a project?
 - iii. been declared in default on a project?
 - iv. been assessed liquidated damages in excess of \$5,000?
 - v. taken legal action or dispute resolution proceedings of any kind against an Owner?

2. Safety:

Provide incidence rate and either experience modification rate or loss ratio. An EMR greater than 1.0 or a loss ratio of more than 100% may result in immediate disqualification.

3. Bonding Capacity:

Provide proof of bonding capacity. The Proposer must be capable of providing a 100% performance bond and 100% payment bond for a project valued up to \$850,000 in construction costs, as documented by a letter or binder from the Surety, submitted with the RFQ response.

The Owner has also identified the following Qualification Conditions in order to establish eligibility to propose further on this procurement. These Qualification Conditions will be scored:

4. Specific Project Requirements:

- a. Proposer should provide evidence of successful experience and capacity to act as a GC/CM on similar projects (i.e. alternative delivery methodology, pre-construction services, phased construction, compressed timelines, similar in complexity). Include contact information for the owners and designers familiar with your work on each project. *Scored from a total of 25 points.*
- b. Proposer should provide evidence of successful experience to act as a general contractor on State, Federal or similar institutional projects. Include contact information for the owners and designers familiar with your work on each project. *Scored from a total of 25 points.*
- c. Proposer should provide evidence of experience and capacity to act as a general contractor on similar projects requiring strategies to successfully complete such unique construction within a compressed timelines. Proposer should include a list of potential strategies to successfully complete this project and a proposed project schedule. *Scored from a total of 25 points.*
- d. Proposer's project manager and superintendent have (*scored from a total of 25 points*):
 - 1) Successfully completed projects of similar complexity (i.e. as identified in a. above);
 - 2) Successfully completed projects together; and,
 - 3) Successfully completed projects of similar complexity together.

VI. SUBMITTAL OF INFORMATION

Four (4) copies of the written response to this RFQ must be **received** at:

Architecture & Engineering Division
(Room 33, Metcalf Building, Capitol Complex)
Department of Administration
PO Box 200103
Helena, MT 59620-0103

By September 11, 2012; 5:00 p.m. MDST.

ALL QUESTIONS AND CONTACTS REGARDING THIS RFQ MUST BE SUBMITTED IN WRITING (email is acceptable) TO:

Russ Katherman, Contracts Officer &
Bob Warfle, Project Manager
Architecture & Engineering Division
(Room 33, Metcalf Building, Capitol Complex)
Department of Administration
PO Box 200103
Helena, MT 59620-0103
(406) 444-3332 / (406) 444-0771
fax (406) 444-3399
rkatherman@mt.gov & bwarfle@mt.gov or
DOAAEDivision@mt.gov

VII. INSTRUCTIONS TO PROPOSERS

Statements of Qualification must:

1. Follow the format outlined in the Selection Procedure, above.
2. Be signed by an officer or principal of your firm.
3. Be contained in a document not to exceed 10 pages total (single or double-sided pages) including whatever pictures, charts, graphs, tables, and text the firm deems appropriate to be part of the review of the firm's qualifications. A separate transmittal letter is exempted from the page limit. Page size is limited to 8-1/2 x 11 inches, with basic text information no smaller than 12-point type.
4. Schedules may be submitted in addition to the page limit.

END OF RFQ